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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,058	01/23/2004	Dennis Williams	0JFM-103198	7619

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EXAMINER

DRODGE, JOSEPH W

ART UNIT PAPER NUMBER

1723

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/764,058

Applicant(s)

WILLIAMS ET AL.

Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-24,26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-20 is/are allowed.
- 6) ☒ Claim(s) 1,3,4,21,23,26 and 27 is/are rejected.
- 7) ☒ Claim(s) 5-20,22 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

The indicated allowability of claims 21 and 23 is withdrawn in view of the newly discovered reference(s) to Cheng patent 3,612,282 and if necessary, Grover et al patent 3,923,664. Rejections based on the newly cited reference(s) follow.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4,26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng patent 3,612,282. Cheng et al disclose apparatus comprising the 1<sup>st</sup> plurality of hollow fiber membranes 19d, module housing to support, conduit 17 and see column 5, lines 43-53, 2<sup>nd</sup> plurality of membranes 19c, and a baffle assembly including flow directing members 25,26,27 and 28 directing flow sequentially to the 1<sup>st</sup> and 2<sup>nd</sup> groups of membranes comprising and fluid source (figure 4, column 4, line 74-column 5, line 41 and column 5, line 10).

For claims 4,26 and 27 and as the claims are further narrowed in independent claim 21, the conduit is cylindrical as in a pipe; a flow divider that directs flow of fluid that has flowed past the 1<sup>st</sup> membrane plurality to divided flows through the individual membranes of the 2<sup>nd</sup> plurality; and the baffle assembly further comprising 1<sup>st</sup> and 2<sup>nd</sup> flow diversion members 25-26-27 that are connected to the 1<sup>st</sup> and 2<sup>nd</sup> plurality of hollow fiber membrane modules via module housings 18b, 18c and 18d. For claim 23, also see

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flow guiding members 24/30 that guide permeate flow out of the pluralities of membranes.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 3,21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng patent 3,612,282 in view of Cote et al patent 5,104,535.

Claim 3 differs in requiring polymeric membrane material, as taught by Cote et al at column 10, lines 10-22. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the membrane material of Cote et al in the apparatus of Cheng, since such membrane material forms hollow fiber bundles having a long-lasting and fluid-tight bond and hence imparts durability.

Claims 21 and 23 differ in requiring the hollow fiber membrane module to be configured to be positionable within a conduit and matable with a similar module. Cote et al teach such mating of modules in and positionable in a conduit (see figures 1 and 5 and column 6, lines 17-26 concerning stacking, figure 5 illustrating mating modules in a common conduit). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the configurable mating of membrane modules of Cote et al in the apparatus of Cheng, so as to filter and treat a larger flow volume of fluid.

#### ALLOWABLE SUBJECT MATTER

Claims 5-11,22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims

Independent claims 12,13 and claims 14-20 dependent therefrom remain distinguished over all of the prior art for reasons of record in the previous office action.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grover et al patent 3,923,664 is of interest for recitation of a membrane module containing a baffle extending between two groups of serially connected membranes which diverts flow therebetween.

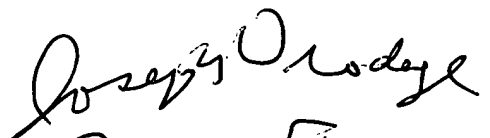
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

December 8, 2006

  
Primary Examiner